

**Amendment/Reply**

Applicant: David H. Hanes

Serial No.: 10/824,242

Filed: April 14, 2004

Docket No.: 200309081-1

Title: REDIRECTING I/O REQUEST TO REMOTE NETWORKED PERIPHERAL DEVICE (As Amended)

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**REMARKS**

The following remarks are made in response to the Office Action mailed January 13, 2009. Claims 3, 15, 26, 37, 39, and 44 have been cancelled without prejudice. Claims 1-48 were rejected. With this Response, claims 1, 13, 24, 33, 38, and 43 have been amended. Claims 1-2, 4-14, 16-25, 27-36, 38, 40-43, and 45-48 remain pending in the application and are presented for reconsideration and allowance.

**Claim Rejections under 35 U.S.C. § 103**

The Examiner rejected claims 1-23, 33-37, and 43-48 under 35 U.S.C. § 103(a) as being unpatentable over the Heil et al. U.S. Patent No. 6,173,374 in view of the Miyoshi et al. U.S. Patent No. 6,901,451.

The Examiner rejected claims 24-32, and 38-42 under 35 U.S.C. § 103(a) as being unpatentable over the Heil et al. U.S. Patent No. 6,173,374 and the Miyoshi et al. U.S. Patent No. 6,901,451 in view of the Hewitt U.S. Patent No. 5,987,541.

Amended independent claims 1, 13, 24, 33, 38, and 43 all include limitations related to redirecting an I/O request by automatically and transparent to a client application conveying an I/O request or command from the client application referencing a local peripheral address over a communication network to a remote peripheral device for processing of the I/O request. In addition, amended independent claims 1, 13, and 43 further define the above limitations with limitations related to replacing the local peripheral address of the I/O request with an address associated with the remote peripheral device; amended independent claims 24 and 38 further define the above limitations with limitations related to replacing a local peripheral address associated with the drive command with an address associated with the remote optical drive; and amended independent claim 33 further defines the above limitations with limitations of means for inserting an address associated with the remote peripheral device into a drive command issued by the receiving means. The combination of the Heil et al. Patent in view of Miyoshi et al. Patent does not teach or suggest these limitations of amended independent claims 1, 13, 24, 33, 38, and 43.

The Examiner cites the Heil et al. Patent Figure 3 and col. 11, lines 45 to col. 12, line 7. The referenced language of the Heil et al. Patent discloses that “peer-to-peer HBAs

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retrieve data corresponding to an I/O request for stored data blocks either locally or remotely. After receiving a block I/O request 400, the 110 redirector has the means to search the directory and determining means to locate the local or remote disk drives that are storing the I/O requested blocks." (Col. 11, lines 48-51.) As illustrated by Figure 3 and as disclosed in the corresponding text of the Heil et al. Patent, after the block I/O request (400) is received for data blocks stored either locally or remotely, the determination is made as to whether the blocks are local (420), and therefore retrieved from the respective local disk drive, or remote (450), and shipped to a remote HBA for processing. In contrast, the limitations of amended independent claims 1, 13, 24, 33, 38, and 43 receive **an I/O request from a client application** referencing a **local** peripheral address and **redirect the I/O request automatically and transparent to the client application** over a communication network to a remote peripheral device for processing of the I/O request, and in amended independent claims 1, 13, and 43 replace the local peripheral address of the I/O request with an address associated with the remote peripheral device; and in amended independent claims 24 and 38 replace a local peripheral address associated with the drive command with an address associated with the remote optical drive; and in amended independent claim 33 insert an address associated with the remote peripheral device into a drive command issued by the receiving means.

The Heil et al. Patent discloses that "[p]rior to shipping the I/O block request, communications are established over the Fibre Channel backbone between the initial HBA and the remote HBA." (Col. 11, lines 57-60.) Therefore, communication over the network must first be established, and then the I/O block request is sent. In contrast, amended independent claims 1, 13, 24, 33, 38, and 43 recite **automatically and transparent to the client application** conveying the I/O request from the client application over a communication network to a remote peripheral device for processing of the I/O request.

Furthermore, the Examiner admits that the limitations of amended independent claims 1, 13, 33, and 43 related to a **local** peripheral address **of a peripheral device for processing the I/O request** are not taught by the Heil et al. Patent. The Examiner relies on the Miyoshi et al. Patent for these limitations. The Miyoshi et al. Patent fails to teach or suggest these limitations.

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The Miyoshi et al. Patent, as identified by the Examiner in col. 1, lines 55-57, discloses that a “means for transferring PCI bus transactions from a local node of a PCI bus to a PCI bus on a remote node over a network” is needed and provided. (Emphasis added.) A PCI bus is defined as a “communication path between a central processing unit (CPU) and a PCI device.” (Col. 1, lines 11-13.) By substituting the PCI bus definition into the above disclosure of Miyoshi et al. Patent, a means for transferring a communication path transaction from a local node of a communication path to a communication path on a remote node over a network is provided. Therefore, Miyoshi et al. Patent discloses communication between local and remote nodes, in contrast to a **local** peripheral address of a **peripheral device** for **processing the I/O request** as recited in amended independent claims 1, 13, 33, and 43.

In view of the above, the Heil et al. Patent, the Miyoshi et al. Patent, and the other cited references alone or in combination do not teach or suggest all of the limitations of amended independent claims 1, 13, 24, 33, 38, and 43. Furthermore, dependent claims 2 and 4-12 further define patentably distinct amended independent claim 1. Dependent claims 14 and 16-23 further define patentably distinct amended independent claim 13. Dependent claims 25 and 27-32 further define patentably distinct amended independent claim 24. Dependent claims 34-36 further define patentably distinct amended independent claim 33. Dependent claims 40-42 further define patentably distinct amended independent claim 38. Dependent claims 45-48 further define patentably distinct amended independent claim 43. Therefore, these dependent claims are also believed to be allowable.

Therefore, Applicant respectfully requests reconsideration and withdrawal of the 35 U.S.C. § 103 rejection to the claims, and requests allowance of claims 1-2, 4-14, 16-25, 27-36, 38, 40-43, and 45-48.

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**CONCLUSION**

In view of the above, Applicant respectfully submits that pending claims 1-2, 4-14, 16-25, 27-36, 38, 40-43, and 45-48 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-2, 4-14, 16-25, 27-36, 38, 40-43, and 45-48 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(h)(i). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 08-2025.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment/Reply should be directed to Patrick G. Billig at Telephone No. (612) 573-2003, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

IP Administration  
Legal Department, M/S 35  
HEWLETT-PACKARD COMPANY  
P.O. Box 272400  
Fort Collins, Colorado 80527-2400

Respectfully submitted,

David H. Hanes,

By his attorneys,

DICKE, BILLIG & CZAJA, PLLC  
Fifth Street Towers, Suite 2250  
100 South Fifth Street  
Minneapolis, MN 55402  
Telephone: (612) 573-2003  
Facsimile: (612) 573-2005

Date: April 13, 2009  
PGB:mlm

/Patrick G. Billig/  
Patrick G. Billig  
Reg. No. 38,080